XR-CA320/CA320X

SERVICE MANUAL

Ver 1.2 2001.05

E Model

XR-CA320/CA320X

Photo: XR-CA320X

Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	MG-36SZ11-32

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS (XR-CA300: US model)

POWER OUTPUT AND TOTAL HARMONIC DISTORTION

22 watts per channel minimum continuous average power into 4 ohms, 4 channels driven from 20 Hz to 20 kHz with no more than5 % total harmonic distortion.

Other specifications

Cassette player section

Tape track	4-track 2-channel stereo
Wow and flutter	0.13 % (WRMS)
Frequency response	30 – 15,000 Hz
Signal-to-noise ratio	55 dB

Tuner section

FM

Tuning range	**XR-CA300:** FM tuning interval: 87.5 – 107.9 MHz (at 200 kHz step) **XR-CA320/CA320X:** FM tuning interval: 50 kHz/200 kHz switchable 87.5 – 108.0 MHz (at 50 kHz step) 87.5 – 107.9 MHz (at 200 kHz step)
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz
Usable sensitivity	11 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	62 dB (stereo), 68 dB (mono)
Harmonic distortion at 1 kHz	0.7 % (stereo), 0.5 % (mono)
Separation	33 dB at 1 kHz
Frequency response	30 – 15,000 Hz

AM

Tuning range	**XR-CA300:** AM tuning interval: 530 – 1,710 kHz (at 10 kHz step) **XR-CA320/CA320X:** AM tuning interval: 9 kHz/10 kHz switchable 531 – 1,602 kHz (at 9 kHz step) 530 – 1,710 kHz (at 10 kHz step)
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz/450 kHz
Sensitivity	30 µV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	45 W × 4 (at 4 ohms)

General

Outputs	Audio output Power antenna relay control lead Power amplifier control lead
Input	Telephone ATT control lead (XR-CA320/CA320X only)
Tone controls	Bass ±10 dB at 20 Hz Treble ±10 dB at 20 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 178 × 50 × 178 mm ($7\,^{1}/_{8} \times 2 \times 7\,^{1}/_{8}$ in.) (w/h/d)
Mounting dimensions	Approx. 182 × 53 × 161 mm ($7\,^{1}/_{4} \times 2\,^{1}/_{8} \times 6\,^{3}/_{8}$ in.) (w/h/d)
Mass	Approx. 1.2 kg (2 lb 10 oz)
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1)

Design and specifications are subject to change without notice.

FM/AW CASSETTE CAR STEREO

9-870-234-13
2001E0500-1

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e Vehicle Company
Shinagawa Tec Service Manual Production Group

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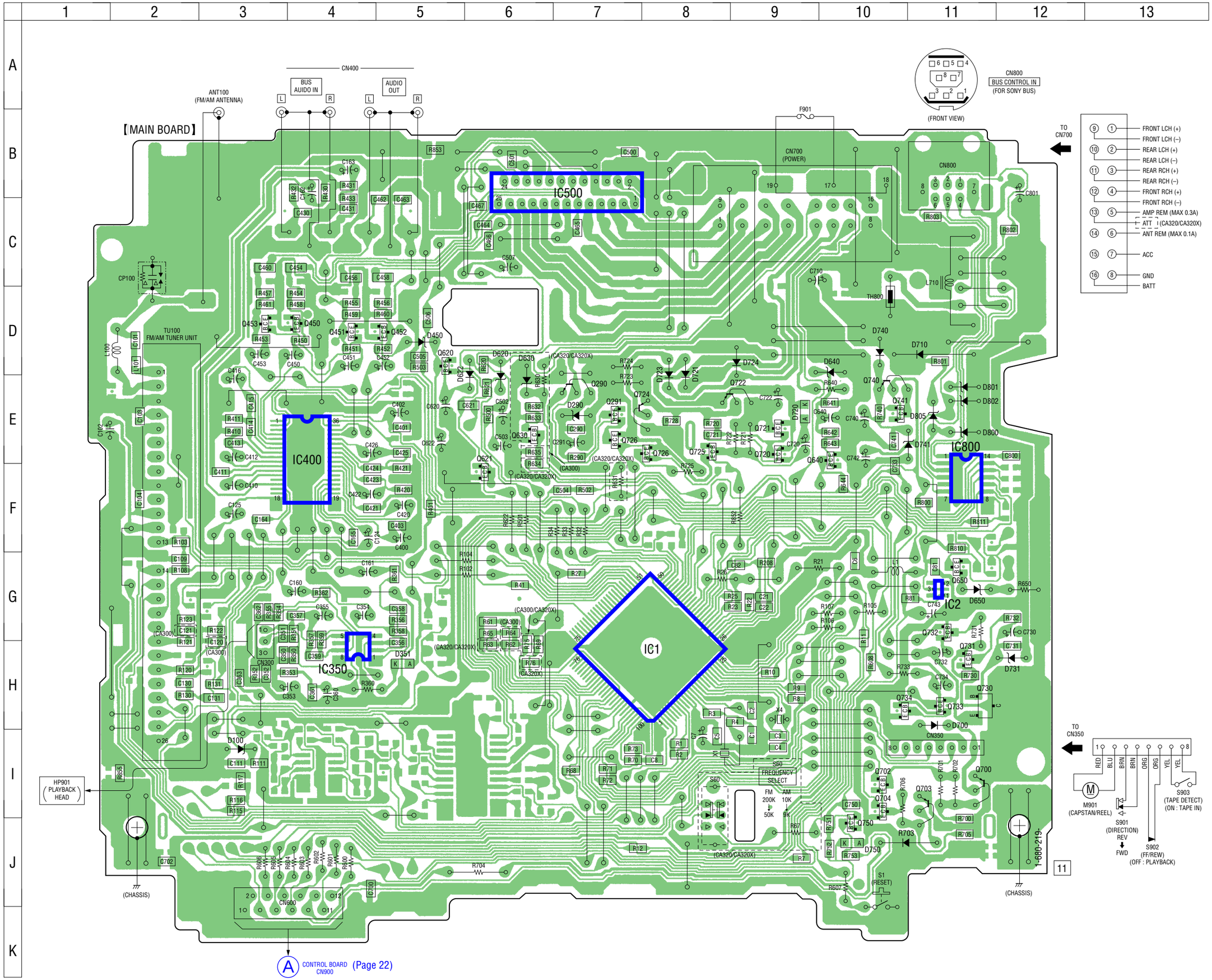
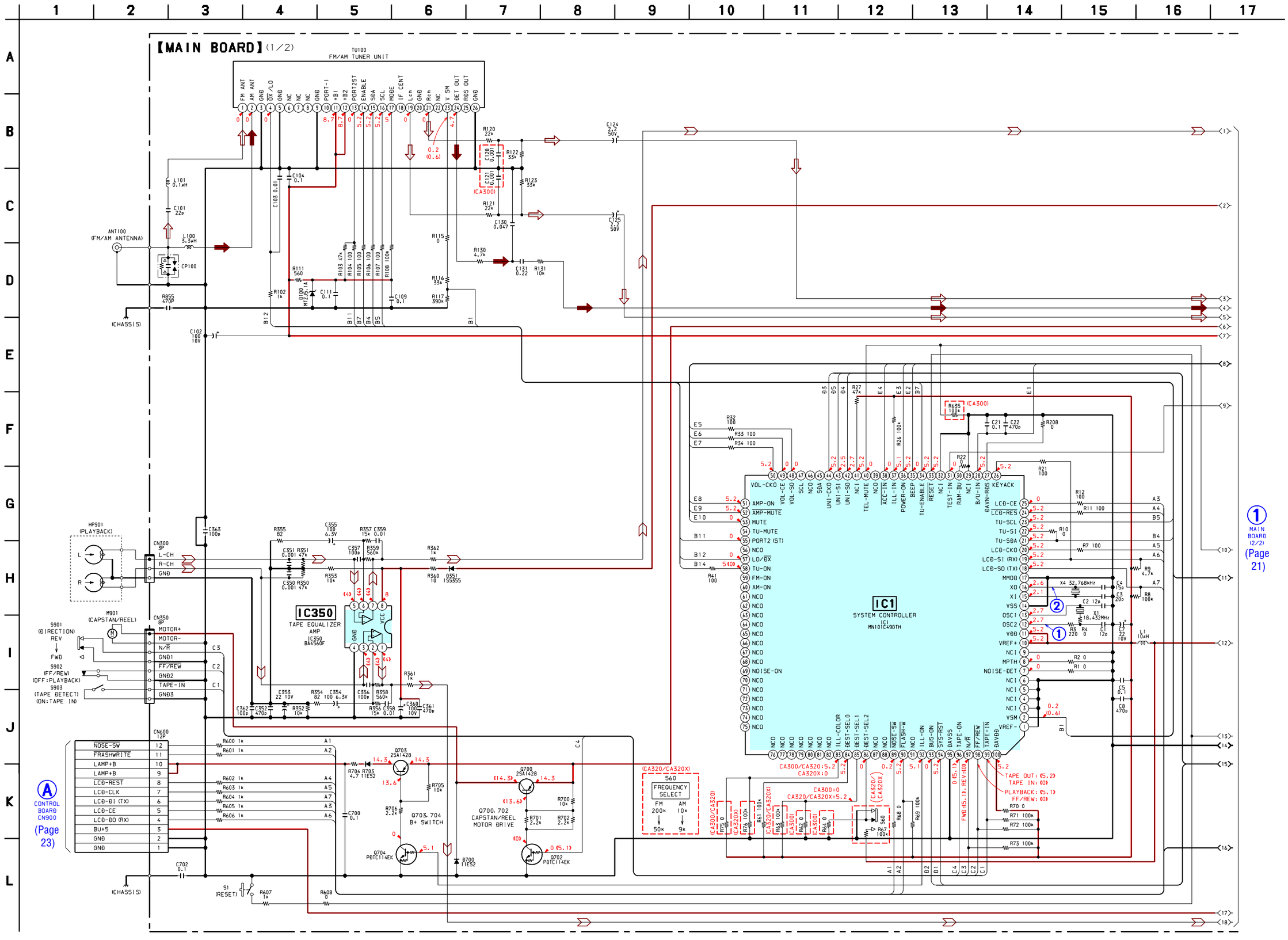


- **Semiconductor Location**

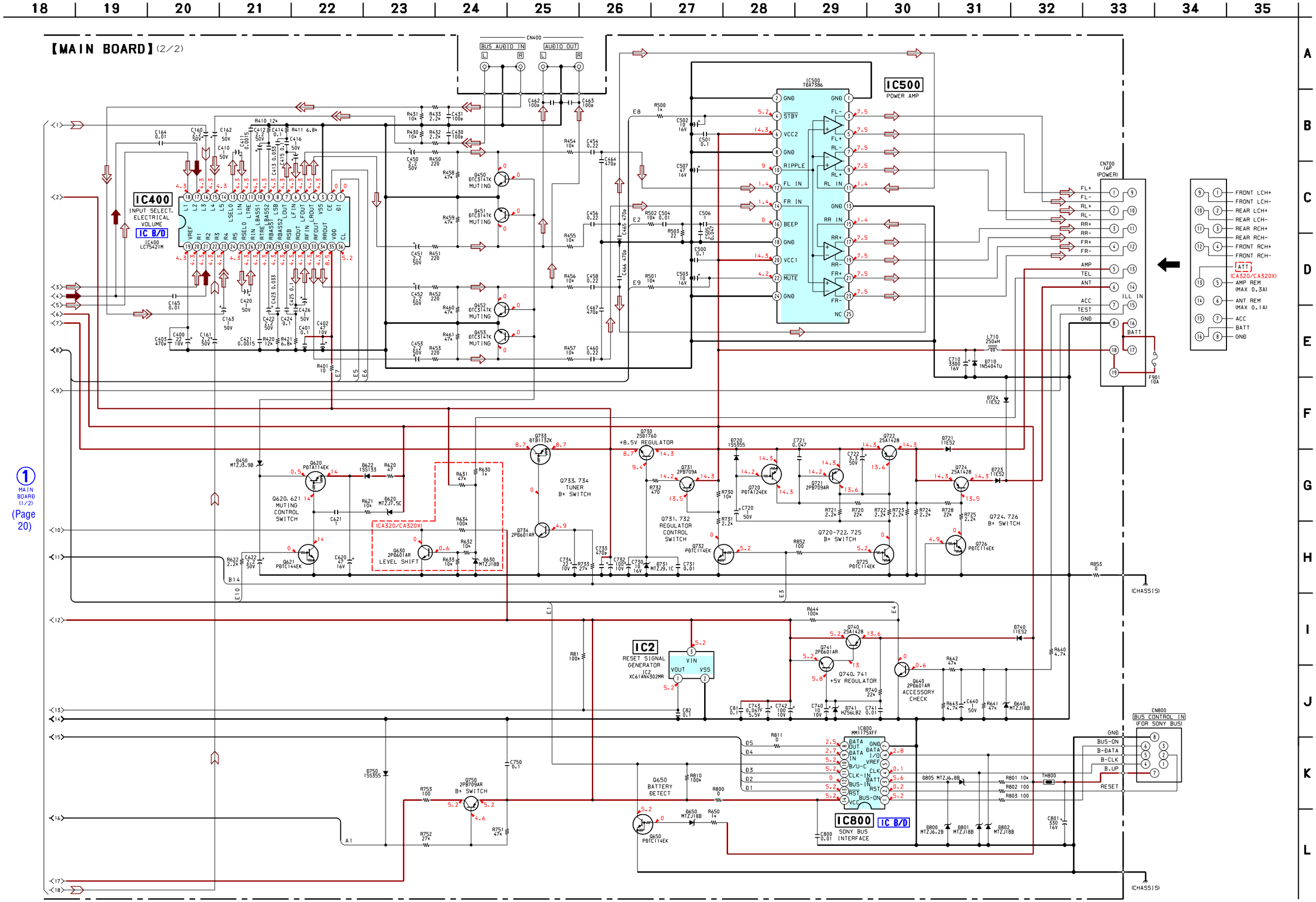
Ref. No.	Location
D100	I-3
D351	H-5
D450	D-5
D620	E-6
D622	E-6
D630	E-6
D640	D-10
D650	G-11
D700	H-11
D710	D-11
D720	E-9
D721	D-8
D723	D-8
D724	D-9
D731	H-12
D740	D-10
D741	E-10
D750	J-10
D800	E-11
D801	E-11
D802	E-11
D805	E-11
IC1	H-8
IC2	G-11
IC350	H-4
IC400	E-4
IC500	B-7
IC800	F-11
Q450	D-4
Q451	D-4
Q452	D-5
Q453	D-3
Q620	D-5
Q621	F-6
Q630	E-6
Q640	E-10
Q650	G-11
Q700	I-11
Q702	I-10
Q703	I-11
Q704	I-10
Q720	E-9
Q721	E-9
Q722	E-9
Q724	E-8
Q725	E-8
Q726	E-8
Q730	H-11
Q731	H-11
Q732	G-11
Q733	H-11
Q734	H-10
Q740	E-10
Q741	E-10
Q750	J-10
R703	J-10

5-3. SCHEMATIC DIAGRAM – MAIN Board (1/2) – • See page 24 for Waveforms.



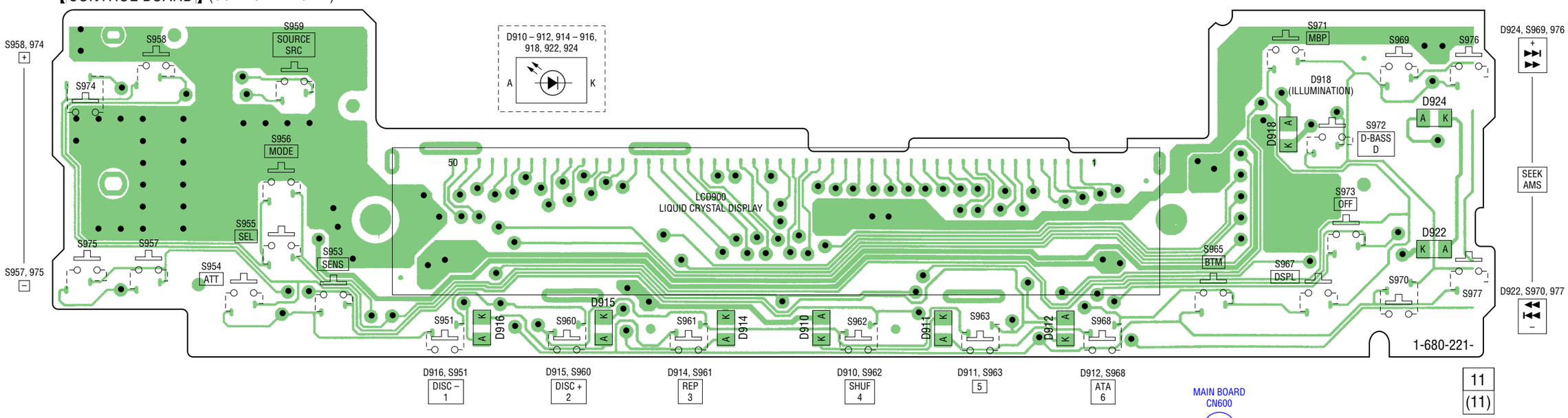
5-4. SCHEMATIC DIAGRAM – MAIN Board (2/2) –

• See page 24 for IC Block Diagrams.

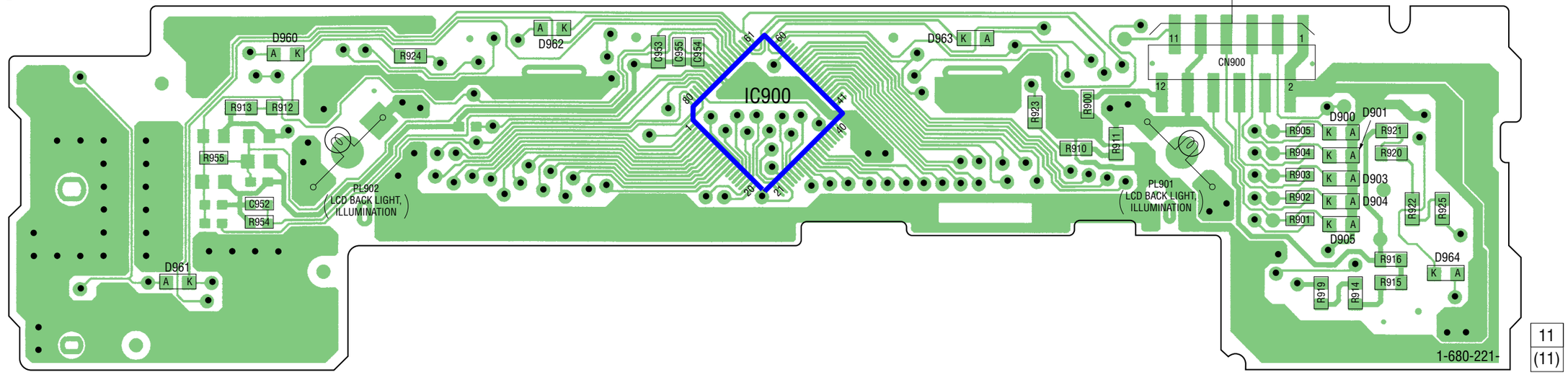


5-5. PRINTED WIRING BOARD – CONTROL Board –

【CONTROL BOARD】(COMPONENT SIDE)



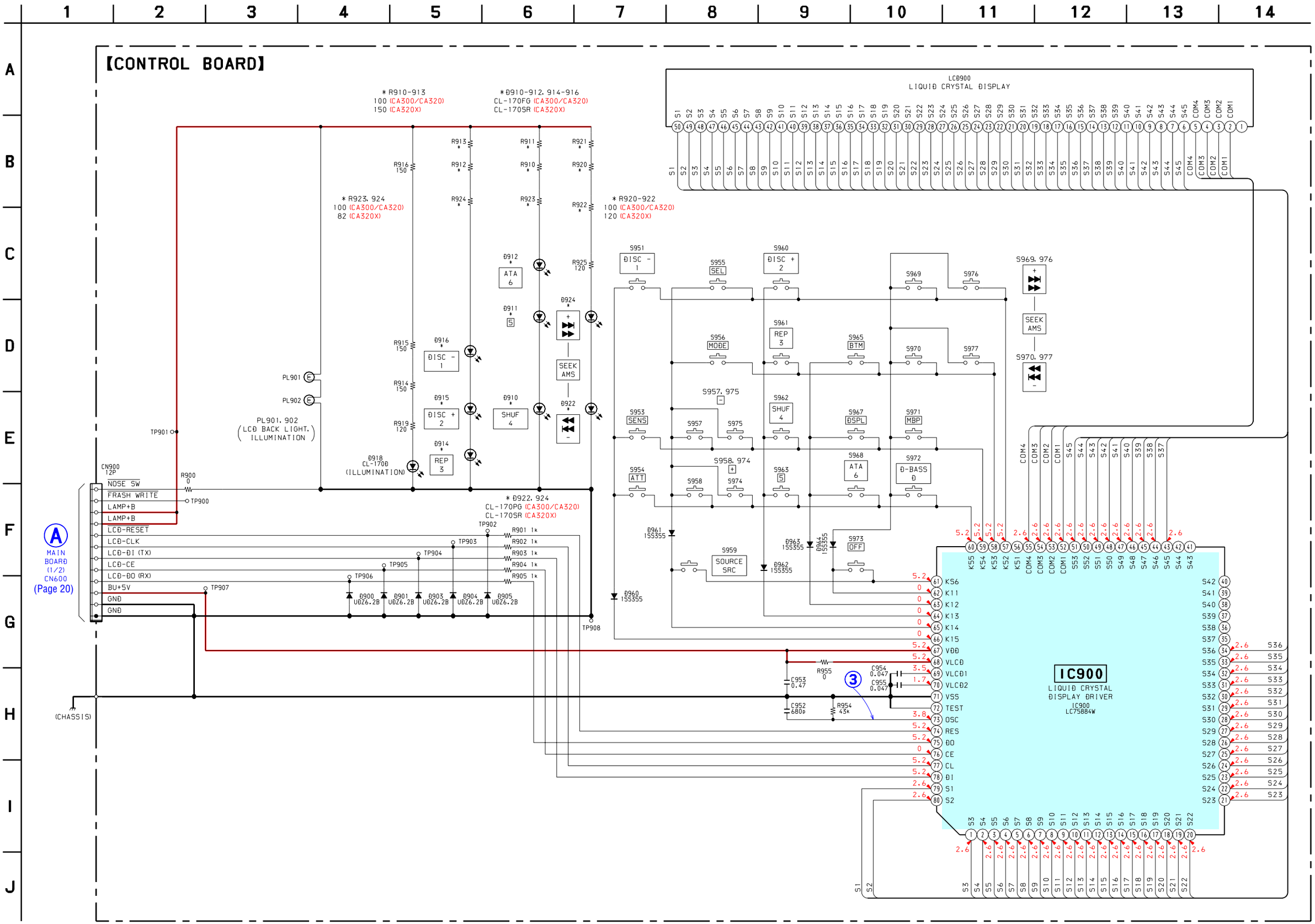
【CONTROL BOARD】(CONDUCTOR SIDE)



- **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D900	E-10	D918	B-10
D901	E-10	D922	C-11
D903	E-10	D924	B-11
D904	F-10	D960	E-3
D905	F-10	D961	F-2
D910	C-7	D962	D-5
D911	C-8	D963	D-8
D912	C-8	D964	F-11
D914	C-6		
D915	C-5	IC900	E-6
D916	C-4		

5-6. SCHEMATIC DIAGRAM – CONTROL Board – • See page 24 for Waveform.



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SONY

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US Model
Canadian Model
XR-CA300
E Model
XR-CA320/CA320X

SUPPLEMENT-1

File this supplement with the service manual.

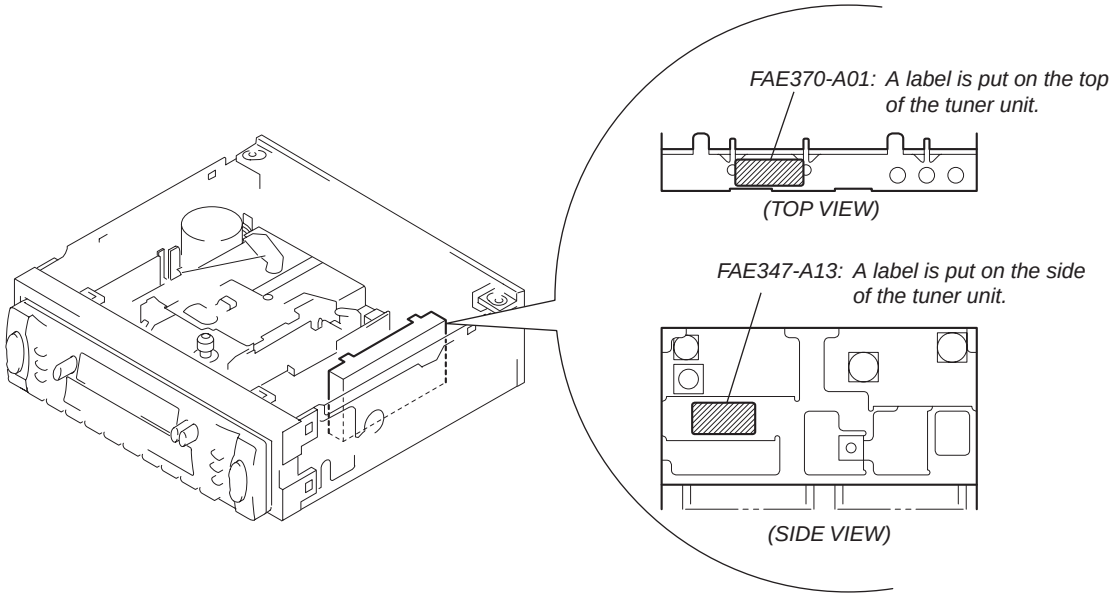
Subject: Change of MAIN board resulting from changing the tuner unit.

(ENG-01004)

Only the main board that the tuner unit (FAE347-A13) is mounted on is described in this supplement-1.

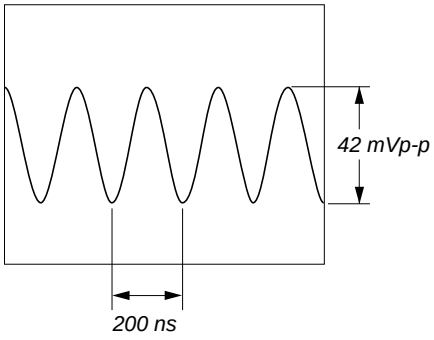
• TUNER UNIT TYPE DISCRIMINATION

Discriminate between TUNER UNIT (FAE370-A01) and TUNER UNIT (FAE347-A13) with the position of the label put on the tuner unit.


FAE370-A01: A label is put on the top of the tuner unit.
(TOP VIEW)
FAE347-A13: A label is put on the side of the tuner unit.
(SIDE VIEW)

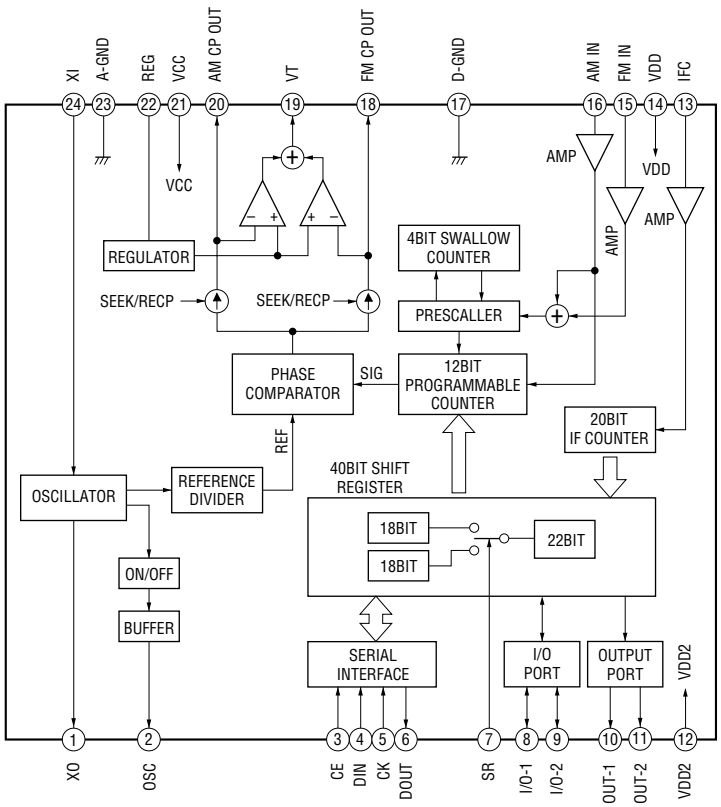
• **Waveform (Refer to page 24 except for ❸.)**
– MAIN Board –

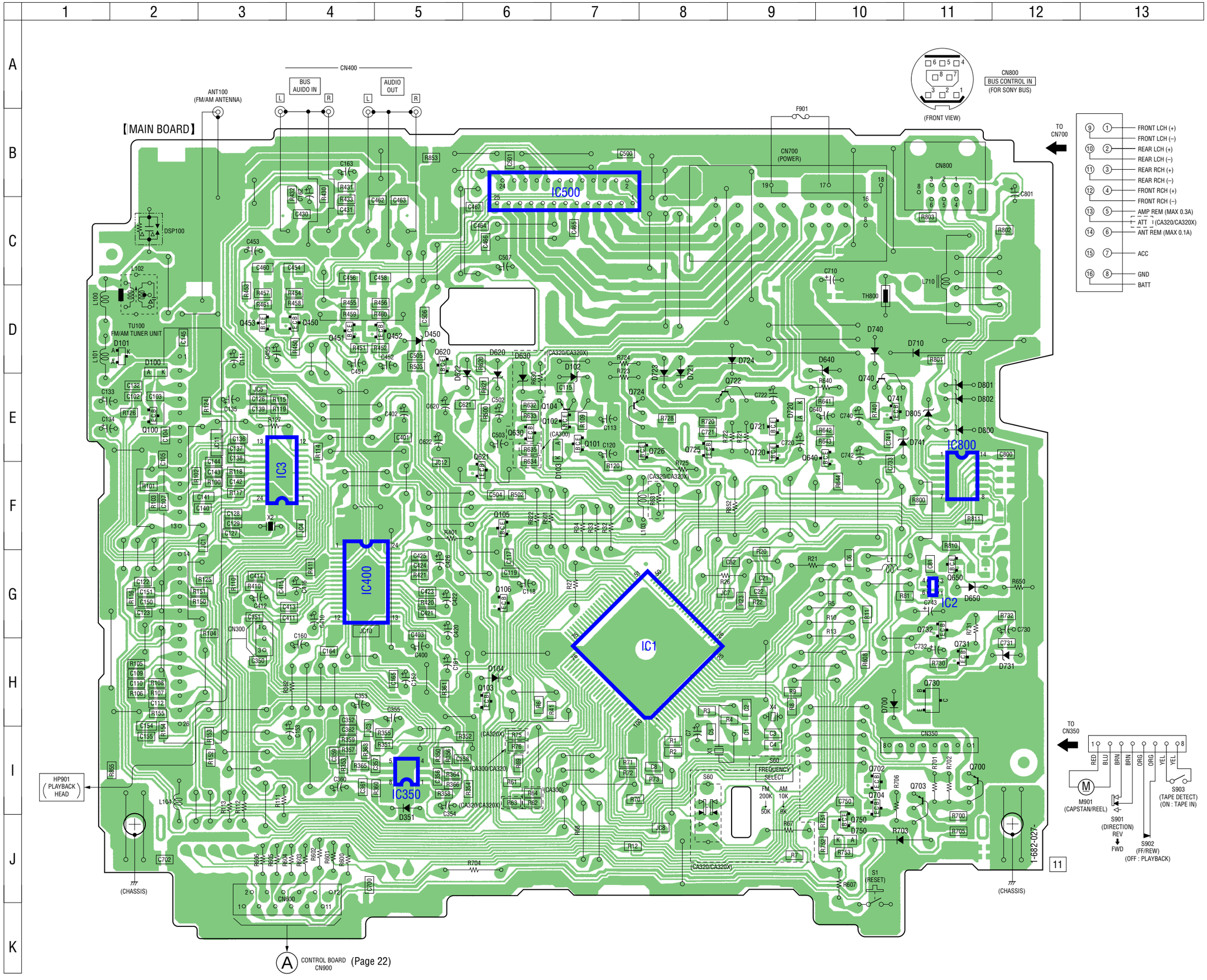
❸ IC3 ① (X OUT)



• **IC Block Diagram (Refer to page 24 except for IC3.)**
– MAIN Board –

IC3 TB2118F-EL-S

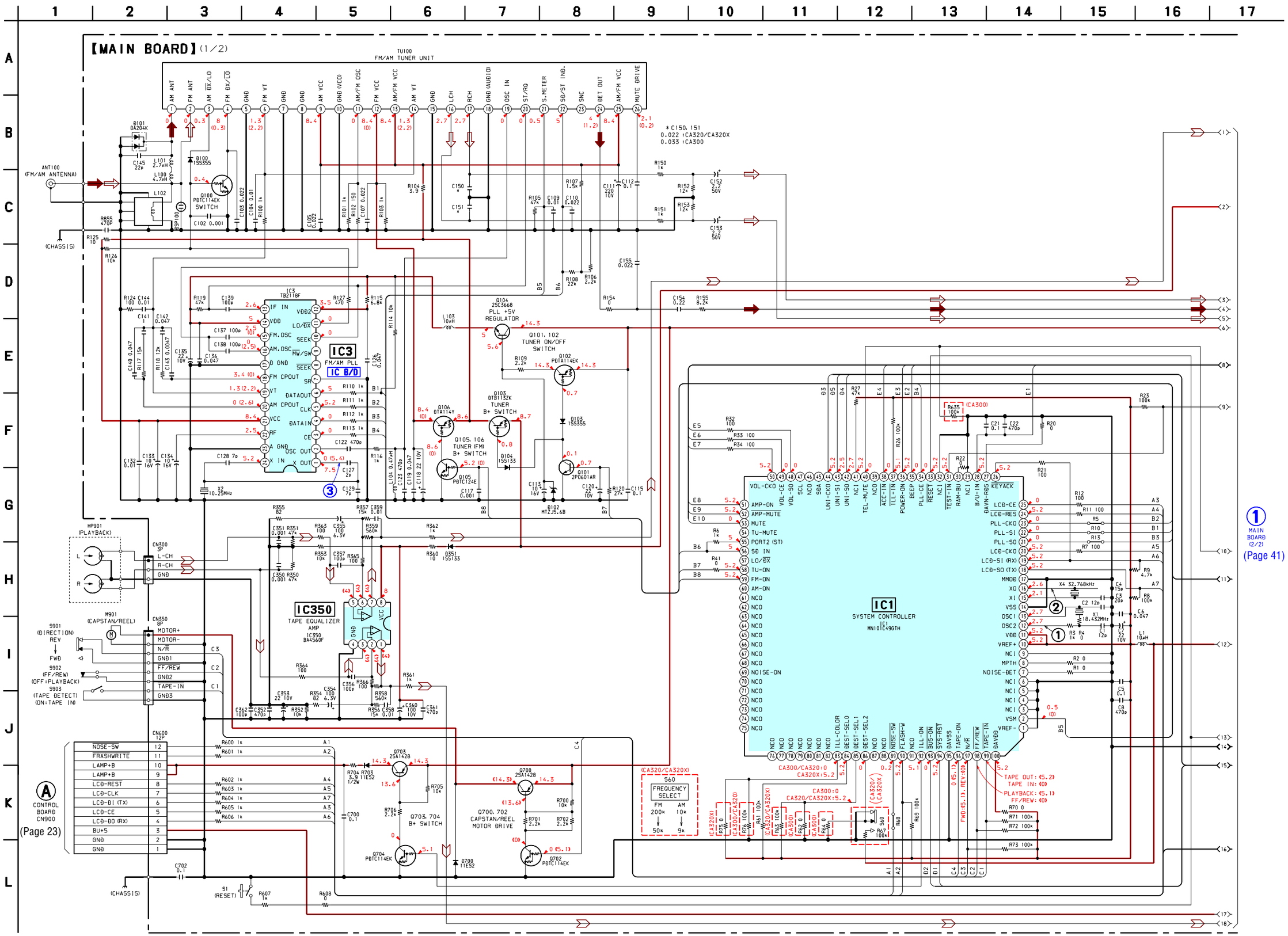
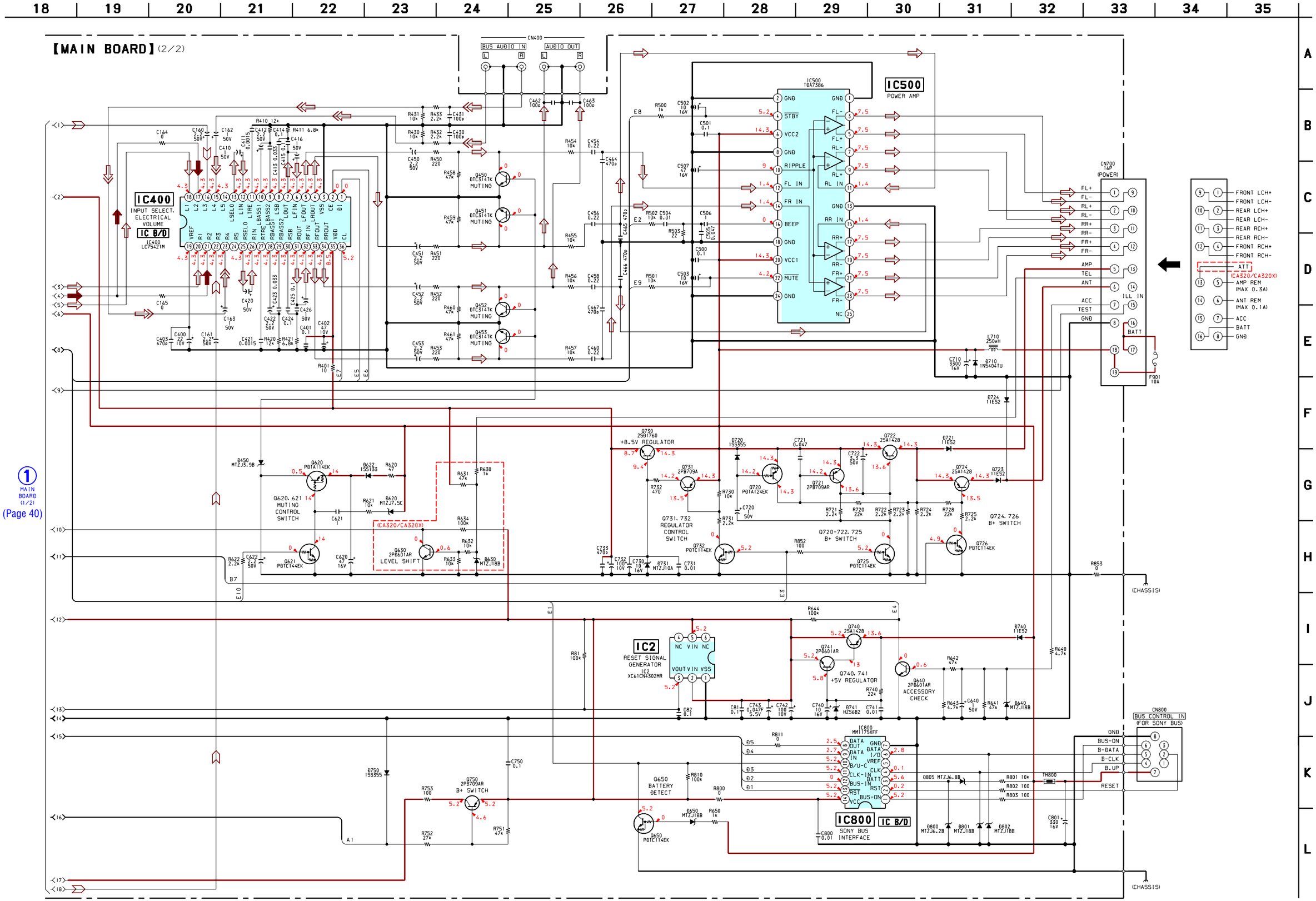




- **Semiconductor Location**

Ref. No.	Location
D100	D-2
D101	D-2
D102	E-7
D103	E-7
D104	H-6
D351	I-5
D450	D-5
D620	E-6
D622	E-6
D630	E-6
D640	D-10
D650	G-11
D700	H-10
D710	D-11
D720	E-9
D721	E-8
D723	E-8
D724	D-9
D731	H-12
D740	D-10
D741	E-10
D750	J-10
D800	E-11
D801	E-11
D802	E-11
D805	E-11
IC1	H-8
IC2	G-11
IC3	F-3
IC350	I-5
IC400	G-4
IC500	B-7
IC800	F-11
Q100	E-2
Q101	E-7
Q102	E-7
Q103	H-6
Q104	E-7
Q105	F-6
Q106	G-6
Q450	D-4
Q451	D-4
Q452	D-5
Q453	D-3
Q620	D-5
Q621	F-6
Q630	E-6
Q640	E-10
Q650	G-11
Q700	I-11
Q702	I-10
Q703	I-11
Q704	I-10
Q720	E-9
Q721	E-9
Q722	E-8
Q724	E-7
Q725	E-8
Q726	E-8
Q730	H-11
Q731	H-11
Q732	G-11
Q740	E-10
Q741	E-10
Q750	J-10
R703	J-10

SCHEMATIC DIAGRAM – MAIN Board (1/2) – • See page 38 for Waveform. • See page 38 for IC Block Diagram.



SCHEMATIC DIAGRAM – MAIN Board (2/2) –